```
RESULT 2
AAY41074
ID   AAY41074 standard; protein; 750 AA.
XX
AC   AAY41074;
XX
DT   09-DEC-1999  (first entry)
XX
DE   PSMA extracellular domain fragment.
XX
KW   Monoclonal antibody; MAb; antigen-binding; extracellular domain; epitope;
KW   PSMA; prostate specific membrane antigen; PSM' protein; prostate cancer.
XX
OS   Homo sapiens.
XX
PN   WO9947554-A1.
XX
PD   23-SEP-1999.
XX
PF   18-MAR-1999;   99WO-US005864.
XX
PR   18-MAR-1998;   98US-00044668.
XX
PA   (NABI-) NORTHWEST BIOTHERAPEUTICS INC.
XX
PI   Murphy GP,  Boynton AL,  Holmes EH,  Tino WT;
XX
DR   WPI; 1999-580294/49.
XX
PT   New monoclonal antibodies, for diagnosis and treatment of prostate
PT   cancer.
XX
PS   Claim 2; Fig 1; 97pp; English.
XX
CC   The invention relates to a monoclonal antibody (MAb) having an antigen-
CC   binding region specific for the extracellular domain of prostate specific
CC   membrane antigen (PSMA). Methods for (a) for detecting the presence of
CC   PSMA expressed by cancer cells in a patient by contacting a sample of the
CC   cells with the MAb (conjugated to a radioisotope); (b) for detecting the
CC   presence of PSM' protein in a biological sample by contacting the
CC   specimen with a substrate and measuring the enzyme activity; and (c) for
CC   treating prostate cancer by administering to the patient an effective
CC   amount of the MAb are provided. The MAb is conjugated to a drug, or a
CC   toxin, or a radioisotope. The MAb is a bispecific antibody, further
CC   comprising an additional antigen-binding region specific for an effecter
CC   cell having tumoricidal or tumor inhibitory activity. The MAb is
CC   conjugated to a heterologous protein or peptide which targets tumoricidal
CC   cells to prostate cancer or targets a cytotoxic compound to prostate
CC   cancer. The MAbs can be used in combination with other known prostate
CC   antibodies to provide extra information regarding the malignant phenotype
CC   of a prostate carcinoma. The hybridoma cell lines can be used as a source
CC   of DNA or mRNA encoding for the rearranged, activated immunoglobulin
CC   genes. This invention allows non-invasive diagnosis of cancer and is also
CC   more sensitive than prior art methods through the use of MAbs directed to
CC   non-overlapping epitopes on PSMA and PSM'. The present sequence
CC   represents the extracellular domain of PSMA
XX
SQ   Sequence 750 AA;

  Query Match           100.0%;  Score 3983;  DB 2;  Length 750;
  Best Local Similarity   100.0%;  Pred. No. 0;
  Matches  750;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MWNLLHETDSAVATARRPRWLCAGALVLAGGFFLLGFLFGWFIKSSNEATNITPKHNMKA 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MWNLLHETDSAVATARRPRWLCAGALVLAGGFFLLGFLFGWFIKSSNEATNITPKHNMKA 60

Qy         61 FLDELKAENIKKFLYNFTQIPHLAGTEQNFQLAKQIQSQWKEFGLDSVELAHYDVLLSYP 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 FLDELKAENIKKFLYNFTQIPHLAGTEQNFQLAKQIQSQWKEFGLDSVELAHYDVLLSYP 120

Qy        121 NKTHPNYISIINEDGNEIFNTSLFEPPPPGYENVSDIVPPFSAFSPQGMPEGDLVYVNYA 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 NKTHPNYISIINEDGNEIFNTSLFEPPPPGYENVSDIVPPFSAFSPQGMPEGDLVYVNYA 180

Qy        181 RTEDFFKLERDMKINCSGKIVIARYGKVFRGNKVKNAQLAGAKGVILYSDPADYFAPGVK 240
```

```
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 RTEDFFKLERDMKINCSGKIVIARYGKVFRGNKVKNAQLAGAKGVILYSDPADYFAPGVK 240

Qy        241 SYPDGWNLPGGGVQRGNILNLNGAGDPLTPGYPANEYAYRHGIAEAVGLPSIPVHPIGYY 300
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 SYPDGWNLPGGGVQRGNILNLNGAGDPLTPGYPANEYAYRHGIAEAVGLPSIPVHPIGYY 300

Qy        301 DAQKLLEKMGGSAPPDSSWRGSLKVPYNVGPGFTGNFSTQKVKMHIHSTNEVTRIYNVIG 360
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 DAQKLLEKMGGSAPPDSSWRGSLKVPYNVGPGFTGNFSTQKVKMHIHSTNEVTRIYNVIG 360

Qy        361 TLRGAVEPDRYVILGGHRDSWVFGGIDPQSGAAVVHEIVRSFGTLKKEGWRPRRTILFAS 420
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 TLRGAVEPDRYVILGGHRDSWVFGGIDPQSGAAVVHEIVRSFGTLKKEGWRPRRTILFAS 420

Qy        421 WDAEEFGLLGSTEWAEENSRLLQERGVAYINADSSIEGNYTLRVDCTPLMYSLVHNLTKE 480
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 WDAEEFGLLGSTEWAEENSRLLQERGVAYINADSSIEGNYTLRVDCTPLMYSLVHNLTKE 480

Qy        481 LKSPDEGFEGKSLYESWTKKSPSPEFSGMPRISKLGSGNDFEVFFQRLGIASGRARYTKN 540
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 LKSPDEGFEGKSLYESWTKKSPSPEFSGMPRISKLGSGNDFEVFFQRLGIASGRARYTKN 540

Qy        541 WETNKFSGYPLYHSVYETYELVEKFYDPMFKYHLTVAQVRGGMVFELANSIVLPFDCRDY 600
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 WETNKFSGYPLYHSVYETYELVEKFYDPMFKYHLTVAQVRGGMVFELANSIVLPFDCRDY 600

Qy        601 AVVLRKYADKIYSISMKHPQEMKTYSVSFDSLFSAVKNFTEIASKFSERLQDFDKSNPIV 660
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 AVVLRKYADKIYSISMKHPQEMKTYSVSFDSLFSAVKNFTEIASKFSERLQDFDKSNPIV 660

Qy        661 LRMMNDQLMFLERAFIDPLGLPDRPFYRHVIYAPSSHNKYAGESFPGIYDALFDIESKVD 720
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        661 LRMMNDQLMFLERAFIDPLGLPDRPFYRHVIYAPSSHNKYAGESFPGIYDALFDIESKVD 720

Qy        721 PSKAWGEVKRQIYVAAFTVQAAAETLSEVA 750
                 ||||||||||||||||||||||||||||||
Db        721 PSKAWGEVKRQIYVAAFTVQAAAETLSEVA 750
```